

ABSTRACT

The present invention relates to thermally stable, high surface area alumina supports and method of preparing such supports with at least one modifying agent. The method includes adding the modifying agent to the alumina prior to calcining. More particularly, the invention relates to the use of such catalysts for the catalytic partial oxidation of light hydrocarbons (*e.g.*, methane or natural gas) to produce primarily synthesis gas. The present invention further relates to gas-to-liquids conversion processes, more specifically for producing C₅₊ hydrocarbons.